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ABSTRACT

An attempt is made to show that career development theory and career decision-making theory both provide a firm foundation for the role of tests in career guidance. This role is primarily to stimulate, broaden, and provide focus to the exploration of self in relation to career. To effectively implement this role, test publishers must devote much more attention to transforming test scores (data) into counseling information. It is suggested that more than information is needed to obtain real benefit from tests. Counselors must help students transform the information obtained from tests into exploratory activities and self-evaluated experiences. For this reason, test interpretation can no longer be treated as a hot-house experience devoid of the real world. Career development and decision-making principles indicate that tests must be used in the context of a developmental career guidance program. When this is done, tests can play a vital role in career guidance. (Author/CK)

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ABSTRACT

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TITLE: THE VITAL ROLE OF TESTING IN CAREER GUIDANCE

Increasingly, counselors are expected to do more in the name of career guidance than test 'em and tell 'em. However, blaming tests for the "square peg" approach to career guidance is similar to blaming skin color for racial discrimination. It would appear that tests are being made the scapegoat for past malpractice in career guidance. Certainly reforms are needed.

The speaker will attempt to show that career development theory and career decision making theory both provide a firm foundation for the role of tests in career guidance. This role is primarily to stimulate, broaden, and provide focus to the exploration of self in relation to career. To effectively implement this role, test publishers must devote much more attention to transforming test scores (data) into counseling information. However, the speaker will propose that more than information is needed to obtain real benefit from tests. Counselors must help students transform the information obtained from tests into exploratory activities and self-evaluated experiences. For this reason, test interpretation can no longer be treated as a hot-house experience devoid of contact with the real world. Career development and decision-making principles indicate that tests must be used in the context of a developmental career guidance program. When this is done, tests can play a vital role in career guidance.

1/14/73 Draft

THE VITAL ROLE OF TESTING IN CAREER GUIDANCE[1]

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The use of tests in guidance has been under fire for a number of years. Recently, however, bigger guns have become involved, and the aim has been getting sharper. For example, Leo Goldman, author of a landmark volume on the use of tests in counseling (Goldman, 1971), recently suggested that the marriage between tests and counseling has failed (Goldman, 1972). Members of this panel, Norm Gysbers and John Crites in particular, have pointed out the inadequacies of test 'em, tell 'em guidance and the trait and factor research on which it is presumably based. Guidance leaders, in general, have become impatient with the one-shot, two-step, problem-oriented approach to the use of tests in vocational counseling and its underlying foundation of prediction/selection-oriented measurement concepts.

As a counselor educator who taught a testing practium for seven years, I became painfully aware of the inadequacies of current testing instruments, research, and practices. I heard the same criticisms you have heard--that test use is largely based on an outmoded square peg, square hole model of career guidance; that this model is static rather than developmental, that it is directive and limiting rather than facilitative, and that accumulated validity evidence does not justify many of the uses made of tests in guidance. I heard these criticisms and agreed with them. Test 'em and tell 'em is not defensible. But, what are the implications? Does this mean we should not test? Certainly, that is the message many counselors are getting.

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[1]Paper presented at a symposium entitled "The Role of Tests in Career Guidance: Obsolete?" APGA National Convention; San Diego, California; February, 1973.

As I pondered the problem, it appeared more and more that tests were getting a bum rap--that they were being used as scapegoats and excuses for shoddy guidance practices. Recall that Parsons formulated the square peg, square hole model of career guidance long before ability tests and interest inventories existed. (Indeed, it can be found in the writings of Plato.) Although this model has become almost synonymous with the guidance use of tests, counselors have readily substituted personal judgments of counselee characteristics into the square peg formula.

Are tests really the cause of poor career guidance practice, or have they merely been available? Did we get to our current state because, for many years, no one gave more than lip service to career guidance? Did counselors, operating in a professional vacuum, become too eager to use tests as a way to discharge their ill-defined career guidance responsibilities? Were they overawed by the success of testing in the personnel selection context (which, incidently, is quite different from the guidance context)? In short, did counselors embrace the square peg model because it was the only thing available?

I believe the answer to each of these questions is, essentially, "yes." If so, it is no wonder that counselors became disillusioned with testing as we began to better understand the career development and decision-making process. Advances in career development theory and the new emphasis being placed on career guidance are causing a revolution in career guidance practices. Certainly, a revolution is in order. But isn't blaming tests for the square peg model of career guidance akin to blaming skin color for racial discrimination?

Should tests be banished forever to the Isle of Psychometrika? Or can the role of tests in career guidance be reformulated in terms of career development and decision-making concepts?

Fortunately, for my peace of mind, I had the opportunity to do some thinking about these questions in the process of writing a chapter for the forthcoming NVGA volume on career guidance. My presentation this afternoon will draw heavily on that paper.[2] My goal is to re-examine the role of testing in educational and vocational guidance in light of career development theory and career decision-making theory. By career guidance, I mean--briefly--educational and vocational guidance. But since a career encompasses a person's life, so does the career guidance to which I refer. I will not be talking about the very promising role of career development measures just now appearing on the market. John Crites will have something to say about them. My concern, here, is with the traditional areas of guidance assessment, i.e., abilities and interests. I hope to show that measures of these human attributes can play a vital role in developmental career guidance.

First, however, we need to take a look at a common misconception or feeling about the use of tests in counseling, a feeling that persists independent of whatever use is proposed. We are told that somehow tests, with their associated statistics, miss the whole point of counseling--the warm, human relationship between the counselor and the counselee. Test scores are cold and impersonal, and their use will make counseling cold and impersonal. To test is to treat the counselee as a number, to deny the importance of the counselee as a person, and to rule out any possibility of relating to him on a personal level.

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[2] The Role of Assessment in Career Guidance. In E. L. Herr (Ed.) Vocational guidance and human development in a changing world of work. Boston: Houghton Mifflin, 1974, in press. (preprints available on request)

Maybe so--it can be that way. But it all depends on the training, attitude, and humanity of the counselor. Test scores, by themselves, are no more cold and impersonal than a raised eyebrow. If properly derived, they communicate information--nothing more, nothing less. This information can be used in a cold, impersonal way or it can be used in a personal, helpful way. It is the counselor, however, who determines how it will be used--just as he determines how information about Johnny's home background, values, and goals will be used. Tests do not manipulate, pigeonhole, provide all the answers, or tell Johnny what to do. They do provide information--information a counselor can use in conjunction with other types of information in the career guidance process.

Foundations for Career Guidance Testing

Now, anyone who maintains that information is irrelevant to the career guidance process can take a nap at this point, because the rest of what I am about to say is based on the following postulate, namely: Information on personal characteristics as they relate to various career choice options is a necessary but not sufficient condition for optimizing career development (Clarke, Gelatt, & Levine, 1965). That is, information is necessary for career guidance. But it is not sufficient by itself. The manner in which the information is used is crucial.

A second postulate bears on the use of test information in career guidance. I would like to suggest that the role of tests in career guidance is threefold: first, to stimulate, broaden, and provide focus to career exploration; second, to stimulate exploration of self in relation to career; and third, to provide "what if" information with respect to various career choice options. I firmly believe

that the guidance role of tests can best be accomplished in the context of an experientially based, developmental career guidance program.

The Importance of Career Exploration

Certainly, there is nothing that is particularly original in all of this. The term "exploration," for example, ". . . has figured in the vocabularies of counselors and vocational psychologists since 1908 when Parson [sic] wrote the first book on occupational choice [Jordaan, 1963, p. 48]." However, the role of tests in facilitating career exploration and planning has received relatively little discussion in the guidance and testing literature. By and large, the use of tests in description, prediction, and problem solving has been emphasized. For this reason, attention here is focused mainly on exploratory applications of testing.

Today we are seeing a renewed interest in career exploration, both in career development theory and in guidance practice. An exploratory period, stage, or substage is central to the career development theories of Ginzberg, Ginsburg, Axelrad, and Herma (1951); Super (1969); and Tiedeman and O'Hara (1963). Exploratory activities are central to developmental career guidance programs currently being implemented. Pritchard (1962) directs attention to the relationship between career exploration and self-exploration. Tennyson (1970) calls for "directed occupational experiences" as preparatory for decision making. Gysbers and Moore (1971) make progressively focused, "hands-on" exploratory activities the central theme of a K-12 developmental career guidance program. Career exploration is a concept and a guidance function that has once again come of age.

The current emphasis on career exploation is not surprising if one subscribes to Super's principle that "In choosing an occupation one is, in effect, choosing a means of implementing a self-concept [1957, p. 196]." An occupation, Super is saying, gives a person the chance to be the kind of person he wants to be. Thus, the importance of knowing oneself and the characteristics of occupations is readily apparent. More is involved here than information, however. One's values, goals, and needs (both conscious and unconscious) are relevant as are the psychosocial reinforcers of occupations. Hence, reasoned vocational choice, alone, may not lead to personally satisfying decisions. Experience, that master teacher, plays a major role in career choice as in everything else. Exploratory activities are designed to provide the experience (direct or vicarious) that leads to the reality testing, clarification, and implementation of the vocational self-concept.

The desirability and value of career exploration is widely recognized. The question is, "What can we do to facilitate career exploration?" "Provide every child with ample opportunities for intensive, first-hand exploration of every occupation in the world of work" is, for some, the ideal answer. A sampling of first-hand and vicarious experiences is more likely to be practical, however. But which experiences? After all, the world of work is large and complex. And what about a student's personal characteristics--his interests, abilities, working condition preferences, values, and goals? Are they irrelevant to the exploration, planning, and decision-making processes? They're not? Then what are some ways of knowing and understanding one's personal characteristics and their career relevance? Through one's experiences? The

reactions of others? Tests? But what do tests have to offer? Aren't they rather far removed from hands-on experience?

Before taking a more detailed look at the potential contributions of tests to career exploration, it will be useful to review some of the major factors in career decision making for the illumination that may be provided on the role of tests in guidance.

Major Factors in Career Decision Making

Decision making is an integral part of career development. As Katz has pointed out, vocational development may be a continuous process, but ". . . the process is enacted through a sequence of choices [1966, p. 8]." Only recently, however, have the components of career decision making become the subject of concerted inquiry. (For example, see Clarke, Gelatt, & Levine, 1965; Gelatt & Clarke, 1967; Herr, 1970; Katz, 1966; Thoresen & Mehrens, 1967.) Chief among these components are the outcomes associated with different choice options, the desirability (utility) of these outcomes from the standpoint of the individual, and the probability of achieving the outcomes. Clarke, Gelatt, and Levine (1965) point out that career decisions are made under a combination of risk and uncertainty and that, one way or another, they involve probabilities--estimates of what will happen if--. In theory, the probabilities affecting a decision can be of two kinds: objective (e.g., based on statistical likelihoods) or subjective (e.g., based on personal forecasts). In the realm of career choice, however, the probabilities are always subjective because it is the individual who decides (Gelatt & Clarke, 1967; Thoresen & Mehrens, 1967).

Gelatt and Clarke cite evidence that

> . . . subjective probability estimates play a crucial role in the decision process. Furthermore, the role appears to be sufficiently pervasive to suggest that subjective probability estimates may be an integral part of the educational-vocational decision process even when the student lacks sufficient objective information upon which to base the estimates. Thus, if a student is going to make such estimates and use them regardless, it would seem essential that through effective counseling the estimates be based as much as possible on fact rather than on wishful thinking, myth, or "hearsay." [pp. 338-339, italics added]

Gelatt and Clarke also cite studies indicating that individuals can incorporate objective data into their personal probability estimates with the result being an increase in realism. They suggest that ". . . a primary function of an effective guidance program would be the gathering and organizing of a broad base of relevant factual data to be used by students in formulating realistic probability estimates [p. 340]."

Another concept useful in describing the decision-making process is that of disjointed incrementalism (Braybrooke & Lindblom, 1963). As interpreted by Gross (1967), this concept means that

> . . . decisions are always made on the basis of very limited knowledge, and typically involve a relatively small change from an existing state of affairs. Further, the choice process is a jagged operation consisting of a series of steps, reversible in many places, and marked often by an adjustment of ends to means. . . . often persons do not first look at the ends that they seek to attain, and then go about looking for the means [p. 423].

Instead, a person ". . . looks for ends that can be attained by the means that he has [p. 423]."

Finally, Ginzberg, Super, and Tiedeman have each described a sequence of stages or tasks that are involved in career decisions. While society more or less calls the time and sets the pace for these decision-making sequences, the

process is not an orderly series of unrepeated and unrelated steps.

Implications for Career Guidance

What are the implications of these views of the career decision-making process? We have seen that decision making is an integral part of career development and that information, whether in the form of facts or probabilities, is a necessary component of decisions. According to current formulations, career development involves an overlapping sequence of tasks and choices, each in turn involving a sequence of preparatory stages occuring over time. Exploration, whether active or passive, is inescapable as a decision-making stage. Career exploration and self-exploration are part of the same process. Many career decisions, it appears, may be shaped and framed in small increments, and while society does provide one-way gates, the steps leading to these gates are typically small and leisurely. At the same time, individuals often travel along career paths largely determined by available means rather than desired ends. Their ability to choose from among the available paths may be seriously hindered by the lack of information enabling them to forecast what lies around the bend.

In summary, it would appear that at least six specific implications for career guidance can be drawn from this view of career decision making.

1. Because of the relative invisibility of occupations in our complex society and because of the natural tendency for means to determine ends in career planning, a major function of guidance is to widen the field of exploration during early stages of the career decision-making process.

2. Career exploration is crucial to career decision making because it can (a) provide the student with information about possible choice options,

including probable outcomes of these choices; (b) facilitate the experiencing of career options; and (c) focus attention on self in relation to these options.

3. The sequential, incremental, and time-extensive nature of decision making suggests that there is ample opportunity in developmental guidance programs for the provision and the clarification of information needed in career decision making.

4. Because of the sequential, incremental, and time-extensive nature of decision making, information available during the early stages of decision making is subject to repeated reality testing and can undergo a self-corrective process by means of successive approximation.

5. Since a given individual may be simultaneously involved in several decision-making problems and stages, his needs for information at a given point in time will vary both in type and content.

6. The need for information of the "what if--" variety in career decision making is incontestable. Information on the probable outcomes of different courses of action constitutes a necessary but not sufficient condition for making decisions wisely.

The Role of Testing in Career Guidance

What, then, do tests have to offer career guidance? The major contribution is information--information that facilitates career exploration and focuses on the "what ifs" in career decision making.

Information for Career Exploration and Decision Making

Information for career exploration is not information that forecloses the decision-making process by telling Johnny the occupation he ought to enter or the choice he ought to make. Rather, it is information that suggests

careers and things about Johnny's self that he might want to explore. The information is not crucial by itself, but rather, in terms of the exploration it stimulates. Exploration, of course, takes time. Hence, testing for the purpose of stimulating exploration must be introduced early in the decision-making process, and the individual must be provided with encouragement and opportunities for exploration.

This is not to suggest that tests should or can be the sole means of stimulating career exploration. Instead, it is proposed that tests can best be used in the context of a developmental guidance program, a program that seeks to stimulate and facilitate student exploration through a wide range of articulated activities.

The second major contribution of tests to career guidance is the provision of information bearing on the "what ifs" of decision making. Decision theory tells us that an essential component of every decision is consideration of the outcomes of various decisions. For certain categories of outcomes, chiefly performance in educational and job training programs, tests can provide some of the necessary "what if" types of information. However, prior participation by the student in a developmental career guidance program is, again, crucial. While counselors may subscribe to the belief that test scores should be seen in the context of all other available information, this may be psychologically impossible for a counselee who is provided with a test profile today and feels compelled (internally or externally) to make a choice tomorrow. Under these circumstances, test results will often loom large in the decision-making process, and a square-peg interpretation (on the part of the counselee, at least) may be unavoidable. However, in the context of a developmental

career guidance program, the "what if" information provided by tests becomes a part of a much larger whole. It is placed in proper perspective, so to speak.

Focused Exploration

In previous discussion, attention has been directed to the broadening or exploratory uses of tests. However, there comes a stage in the decision-making process when it is necessary to narrow the range of choice options under consideration. Ginzberg, Super, and Tiedeman each speak of crystallizing preferences and specifying or implementing choices. Youth cannot go on forever keeping all possible gates open, for to do so would greatly impair their ability to pass through any but the largest of gateways. The career development tasks set for youth by society sooner or later force a commitment; a narrowing process eventually has to occur--usually during the late teens in our society. A major task of guidance is to insure that this narrowing does not occur by default--to help youth survey the career world before choosing to take up residence in this or that region.

During the elementary school years, to continue the analogy, the survey is like a plane trip around the world. The major continents of employment become apparent, and the student is helped to identify different climates and features of the workscape. Career awareness is the primary goal. Once the age of puberty is passed, however, the increased consciousness of self, the impending status of adulthood, and the move toward independence and self-direction combine to make more intensive, personalized experience in the world of work desirable. The student now needs to spend some time in different work locales to find out if they are merely nice places or whether

he would really like to live there. Career exploration, at this stage, takes on a new dimension. Whereas, during the prepuberty years it could be broad and general, a "once-over-lightly" partly based on transitory fantasies and interests, career exploration during the postpuberty years requires focus and intensity. Exploration of the whole world of work must give way to exploration of the possibles and the probables.

The major task of career guidance at this stage would appear to be broadening the scope of the possibles and probables while helping youth to find their way among them. Perhaps the most appropriate term to describe this task is "focused exploration." One of the major guidance roles of testing is to help provide focus to career exploration--not a focus that singles out the "right" occupation for Johnny or Sally, but rather a focus that points to regions of the work world which they may want to visit. Where they will live depends on the climate they are looking for, opportunities in the regions with that climate, and their available resources. It is the individual who provides the final focus.

Implications for Testing Procedures

As noted in a previous section, there is nothing new in the current emphasis on career exploration. Neither is it new to suggest that tests might be used to facilitate exploration. Interest inventories have been used for this purpose for a number of years. In the past, however, attention in testing texts has been concentrated on the use of tests in description, prediction, and bringing about resolution to problems. The nature of assessment and reporting procedures appropriate to these purposes differs considerably from what is needed to facilitate career exploration.

Bandwidth of Testing Instruments

Some years ago, Cronbach and Gleser (1957) distinguished between what they called wideband and narrowband approaches to measurement. Narrowband instruments focus intensive assessment on a specific, limited area of concern with the objective being highly accurate measures of those personal characteristics most relevant to that concern. Usually, only a few measures are involved (e.g., a college placement test covering English, mathematics, and natural science). Wideband instruments, on the other hand, assess a wide variety of personal characteristics--characteristics that are relevant to a number of concerns. Ideally, many different measures will be involved in one articulated testing program--for example: interests, abilities, competencies, job values, working condition preference, and educational aspirations.

Cronbach and Gleser's delineation of the bandwidth dimension in measurement has implications for the types of measures that are used in career guidance. Wideband measurement, it would appear, is especially appropriate to facilitating self- and career exploration. Because of the wide variety of personal characteristics that can be covered, the student is presented with several perspectives from which he can view his "self" in relation to careers. New ways of abstracting experience and focusing it on career plans are added to the information about himself that he already has. Ideally, two basic types of information are added: comprehensive, articulated information, on personal characteristics (i.e., information presented in self terms); and information relating these personal characteristics to career options (i.e., information presented in career terms). Among the major limitations of many tests currently used in guidance are their failure to integrate different

kinds of information (e.g., interests and abilities are covered in separate, unarticulated tests and their failure to provide information both in self and career terms.

Use of tests in the context of a developmental career guidance program makes wideband measures desirable from another standpoint. Since developmental guidance is for everyone, and since there are wide differences in the information needs of different individuals or of an individual simultaneously engaged in several decision-making cycles, only wideband measures can provide the variety of information that is needed.

Models for Data-Information Conversion

Another implication that follows from the previous discussion of the guidance role of tests is the need to change our expectations of what tests should provide. Test data must undergo a series of transformations if they are to have an impact on career development. First, the data (scores, percentile ranks, stanines, etc.) must be transformed into information relevant to counseling and guidance. Next, this information must be transformed into experience; and finally, the experience must be transformed into career plans and decisions. Test authors have the primary responsibility for data-information transformation, although this responsibility is shared with counselors. Counselors have the primary responsibility for transforming information into experience, although this responsibility is shared with other educators, citizens in the community, and the counselees themselves. Finally, counselees alone have the responsibility of transforming experience into career decisions, although counselors, parents, and other interested individuals can provide help.

The first of the transformations noted above is the conversion of test data into guidance information. In career guidance this means information useful in the exploration and specification stages of decision making. As Goldman (1971)

has pointed out, data-information conversion involves "bridging the gap" between the test score and its implications for the counselee. Test scores, by themselves, have no meaning. It is only after determination of their relationship to real-world events that they become more than digits on a page derived from marks on a page. This relationship, of course, is relevant to a central characteristic of all tests--validity. But validity data, alone, seldom provide the counselor with much help in transforming test scores into counseling information. A correlation coefficient of .53 between a test and grades in nursing says very little to the counselor about Mary's prospects in that field. What the counselor really needs for purposes of career guidance is a way to bridge the gap between the test score and its meaning, not its meaning in general, but rather, its meaning for Mary.

Too often, test publishers have settled for providing a score profile, some general validity data, and a few suggestions, and then have expected the counselor to muddle through. We have called it "clinical interpretation," certainly an indispensable part of any use of tests in guidance; but perhaps the term is largely a "cop out" that covers for our inability to provide counselors with the information they need.

What, then, are some procedures for bridging the gap between the test score and its implications? Two major kinds of models have been implicit in the discussion thus far--a model suggesting choice options for exploration and a model indicating probable level of success should a particular option be pursued. The model most familiar is undoubtedly the model used to provide predictions of performance or success, i.e., the correlation and regression model. Less well-known, although by no means new, is the discriminant-

centour model (Tiedeman, Rulon, & Bryan, 1951). The function of this latter model is to provide an indication of a student's similarity to the characteristics of persons already pursuing various choice options. Degree of similarity can be expressed statistically via centour scores, which are two-digit numbers with some of the same properties as percentile ranks. However, there are several nonstatistical versions of the discriminant-centour model just as there are nonstatistical versions of the regression model.

The goal of the discriminant-centour model, as used in career guidance, is not to find a perfect match that leads to choice, to predict membership in some group, or to estimate degree of success in some endeavor, but rather to say, "Look, here are some occupations (vocational education programs, college majors, etc.) that attract people who are similar to you in several ways. You may want to check into them."

An additional application of the discriminant-centour model, one that is facilitated by means of two-dimensional "exploration maps" (Prediger, 1971), is to help the student project certain aspects of his "self" into a choice domain and to "try on" various options for size. This form of vicarious exploration is no substitute for real-world exploration, of course, but it does provide a unique opportunity for the student to survey his location in the world of work with respect to interests, abilities, and other measured characteristics.

Those interested in guidance applications of these models might consult the paper on which this presentation is based. I will be happy to provide preprints on request. Because of time limitations, however, further discussion of cannot be provided here. Suffice it to say that these two models for data-information transformation complement each other, with the discriminant

model providing information to stimulate exploration and the regression model providing success estimates to be used during the process of exploration.

Test publishers have powerful procedures at their disposal for transforming test data into counseling information. We should all encourage them to use these procedures.

Some Implications for Counselors

I have already discussed the role of the counselor in transforming information from tests into student experience and career plans. I believe this is the counselor's most important role in testing. For unless information is experienced and integrated into the self-concept, it can have very little impact on career development. Experience, as used here, refers to both external experience as obtained in career exploration and internal experience as obtained in self-exploration. The former contributes to the latter because of the likelihood of experiencing new aspects of self during the active exploration of careers.

The main vehicle for the counselor in meeting his responsibilities is a developmental career guidance program coupled with the periodic opportunity for counseling. The role of counseling in the context of career guidance is to help the student assimilate the information and experience he has attained, to assess its meaning for him, and to plan next steps in the decision-making process.

Another major role of the counselor in testing, one with special relevance for the disadvantaged, is to help counselees find ways of transforming possibilities into probabilities. Traditional, prediction-oriented uses of tests in guidance have emphasized the status quo--the probabilities given

existing circumstances. On the other hand, exploratory uses of tests focus on possibilities--without ruling out alternatives because of current deficiencies in ability, education, or personal resources. The individual, with the help of exploratory experiences and in the context of his value system, determines his goals. When these goals center on the possible rather than on the probable, the counselor's challenge is to help make the possible a reality. This is a task that cannot be performed by assessment alone, although tests have been faulted for this reason. Tests can point out some of the possibilities and probabilities, and they can provide clues as to how change can be brought about. But they cannot talk with the individual's parents; integrate health, socioeconomic, and classroom performance data into an effective plan of action; help the student weigh the personal costs and directions of change; develop a new school program; obtain financial aid; or arrange for remedial help. The implementation of change requires counseling and guidance of the highest order.

A developmental career guidance program provides an effective context for facilitating change in the student--for intervening in the normal course of events. Strong guidance programs can also be effective in bringing about change in student environments. Both types of change, personal and environmental, can help transform the remotely possible into the highly probable for a given individual.

Summary

In summary, I would like to restate five points which I believe provide evidence for the vital role of testing in career guidance.

1. The potential contribution of tests to career guidance is based on the supposition that information about human attributes is a necessary although not a sufficient condition for optimizing career development.

2. Theory, research, and common sense tell us that we have passed the era in which square-peg, square-hole uses of tests could be viewed as the epitome of vocational guidance. However, blaming tests for the square-peg approach to career guidance is somewhat like blaming skin color for racial discrimination. It is essential to differentiate between assessments of human attributes and square-peg uses of these assessments.

3. Both career development theory and career decision-making theory suggest that the role of tests in career guidance is threefold: first, to stimulate, broaden, and provide focus to career exploration; second, to stimulate exploration of self in relation to career; and third, to provide "what if" information with respect to various career choice options.

4. Test data must go through a chain of transformations if they are to be useful in career guidance. First, test data must be transformed into information relevant to counseling and guidance. Next, this information must be transformed into exploratory activities and self-evaluated experiences. And, finally, these experiences must be transformed into career plans and decisions. Responsibilities for these transformations (in order of presentation) primarily rest with test publishers, counselors, and counselees.

5. Because of the important and active roles of the counselor and counselee in these transformations, tests can best be used in the context of a developmental career guidance program.

References

Braybrooke, D., & Lindblom, C. E. A strategy of decision. New York: Free Press of Glenco, 1963.

Cronbach, L. J., & Gleser, G. C. Psychological tests and personnel decisions. Urbana: University of Illinois Press, 1957.

Clarke, R., Gelatt, H. B., & Levine, L. A decision-making paradigm for local guidance research. Personnel and Guidance Journal, 1965, 44, 40-51.

Gelatt, H. B., & Clarke, R. B. Role of subjective probabilities in the decision process. Journal of Counseling Psychology, 1967, 14, 332-341.

Ginzberg, E., Ginsburg, S. W., Axelrad, S., & Herma, J. L. Occupational choice: An approach to a general theory. New York: Columbia University Press, 1951.

Goldman, L. Using tests in counseling. (2nd ed.) New York: Appleton-Century-Crofts, 1971.

Goldman, L. Tests and counseling: The marriage that failed. Measurement and Evaluation in Guidance. 1972, 4, 213-220.

Gross, E. A sociological approach to the analysis of preparation for work life. Personnel and Guidance Journal, 1967, 45, 416-423.

Gysbers, N. C., & Moore, E. J. Career development in the schools. In G. F. Law (Ed.), Contemporary concepts in vocational education. Washington, D. C.: American Vocational Association, 1971, pp. 218-229.

Herr, E. L. Decision-making and vocational development. Guidance Monograph Series, Series IV. Boston: Houghton Mifflin, 1970.

Jordaan, J. P. Exploratory behavior: The formation of self and occupational concepts. In D. E. Super, R. Starishevsky, N. Matlin, & J. P. Jordaan, Career development: Self-concept theory. Research Monograph, Number 4. New York: College Entrance Examination Board, 1963.

Katz, M. A model of guidance for career decision-making. Vocational Guidance Quarterly, 1966, 15, 2-10.

Prediger, D. J. Data-information conversion in test interpretation. Journal of Counseling Psychology, 1971, 18, 306-313.

Pritchard, D. H. The occupational exploration process: Some operational implications. Personnel and Guidance Journal, 1962, 40, 674-680.

Super, D. E. The psychology of careers. New York: Harper, 1957.

Super, D. E. Vocational development theory: Persons, positions, and processes. The Counseling Psychologist, 1969, 1(1), 2-9.

Tennyson, W. W. Comment [on Vocational-Technical Education Symposium]. The Vocational Guidance Quarterly, 1970, 18, 261-263.

Thoresen, C. E., & Mehrens, W. A. Decision theory and vocational counseling: Important concepts and questions. Personnel and Guidance Journal, 1967, 46, 165-172.

Tiedeman, D. V., & O'Hara, R. P. Career development: Choice and adjustment. Research Monograph, Number 3. New York: College Entrance Examination Board, 1963.

Tiedeman, D. V., Rulon, P. J., & Bryan, J. G. The multiple discriminant function--A symposium. Harvard Educational Review, 1951, 21, 71-95.